

Management Quality and Antitakeover Provisions

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Abstract

We present the first empirical analysis of the relationship between a firm's management quality and the prevalence of antitakeover provisions in its corporate charter and their influence on initial public offering (IPO) valuation and post-IPO performance. We test the implications of the managerial entrenchment hypothesis, which implies that antitakeover provisions serve only to enhance the control benefits of incumbent management, and the long-term value creation hypothesis, which implies that such provisions can enhance value in the hands of higher quality management. We find that, first, firms with higher quality management and greater growth options are associated with a greater number of antitakeover provisions. Second, firms with higher management quality and a greater number of antitakeover provisions outperform other firms in the sample in terms of post-IPO operating and stock return performance and obtain higher IPO valuations. Our findings reject the managerial entrenchment hypothesis and support the long-term value creation hypothesis.

1. Introduction

Why do firms adopt various antitakeover provisions (ATPs) in their corporate charters and bylaws? How do the presence and strength of such provisions affect the future stock return and operating performance of firms? The answers to these questions are controversial, although a number of papers have attempted

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to answer these questions in various contexts (Agrawal and Mandelker 1990; Agrawal and Knoeber 1996). The objective of this paper is to shed new light on these questions by analyzing, for the first time in the literature, the relationship between the quality and reputation of a firm's management and the prevalence of ATPs in its corporate charter and the relationship between these two variables and the firm's valuation and operating and stock return performance using a sample of firms going public. Initial public offerings (IPOs) of equity are a particularly appropriate context in which to study these relationships. Many provisions in a firm's corporate charter are decided on at the time of going public, which allows us to study contemporaneously the relationship between the number of ATPs in a firm's corporate charter and the quality of the management team that put these provisions in place.¹ In order to analyze that relationship, we test the implications of two alternative theories regarding the relationship between the quality of a firm's management and the prevalence of ATPs and regarding the relationship among management quality, ATPs, and IPO valuation and post-IPO performance.

The first theory we test is the managerial entrenchment hypothesis. This hypothesis argues that ATPs reduce shareholder value since they entrench managers by reducing the probability of takeovers by rival management teams and thus insulate managers from the discipline imposed by the market for corporate control. Such managerial entrenchment may allow a firm's management to exert less effort in running the firm and allow managers to extract more control benefits. This implies that firms with lower management quality are more likely to have stronger ATPs in their corporate charters when going public. Further, this theory implies that regardless of the ability of the management team, stronger ATPs lead to poorer post-IPO firm performance and lower IPO valuation since they reduce the disciplining effect of the market for corporate control on firm management.

While there is some evidence (Field and Karpoff 2002) that ATPs play a role in entrenching firms' managers, other evidence indicates that there is more to the use of ATPs in corporate charters than a blatant attempt to entrench current management at the expense of shareholders. For example, the empirical evidence indicates that the use of ATPs in IPOs has increased rather than decreased over time.² Further, in contrast to the view that ATPs are value reducing, Field and Karpoff (2002) do not find any evidence that ATPs at the time of IPO contribute to poor post-IPO operating performance. In fact, their evidence indicates that post-IPO operating performance in the years immediately after the IPO is poorer for firms without takeover defenses than for firms with defenses. In summary, the management entrenchment hypothesis merits further empirical examination.

¹ In contrast, the relationship between management quality and antitakeover provisions (ATPs) in a firm's corporate charter is harder to analyze for more seasoned firms because many of these provisions may have been inherited from previous management teams.

² For example, Bebchuk (2003) points out that 82 percent of firms going public in 2002 made use of staggered boards, while only 35 percent of firms going public during 1988–92 did so.

We propose to accomplish this by studying the relationship between the quality of a firm's management and the prevalence of ATPs in its corporate charter.

The second hypothesis we test is the long-term value creation hypothesis developed by Chemmanur and Jiao (2012). Their theoretical analysis demonstrates that, in an environment of asymmetric information about management quality, dual-class share structures and other ATPs may be value enhancing in the hands of higher quality (more talented) managers. Such ATPs allow managers to create superior value for the firm by investing in risky long-term projects without fear of losing control to inferior rivals in a control contest (for example, in a situation in which the firm's project is in temporary difficulties). Antitakeover provisions will be value destroying in the hands of lower quality managers since they can use such provisions to enjoy the benefits of control without being able to create any superior long-term value.

The long-term value creation hypothesis implies that firms with more reputable managers will be more likely to include stronger ATPs in their corporate charters, since the ability to create long-term value will dominate any reduction in the IPO share price imposed by the equity market. Next, among firms with higher management quality, those with larger growth options will have stronger ATPs since there is a greater opportunity for value creation in such firms. Further, for firms with higher quality managers, having stronger ATPs will result in better post-IPO performance and higher IPO valuation. Thus, we divide a sample of IPO firms into four groups: firms with high or low management quality, with each category subdivided into those with a greater or smaller number of ATPs. The prediction is that firms in the group with high-quality managers and a greater number of ATPs will have, on average, better post-IPO operating and stock return performance and higher IPO valuation than firms in the remaining three groups.³

We test the implications of the two theories using a sample of firms going public between 1993 and 2000 and making use of measures of management quality developed by Chemmanur and Paeglis (2005). Data on management quality were hand collected from IPO prospectuses. Data on ATPs in the charters of firms going public were also hand collected from IPO prospectuses. We study 19 ATPs at the firm level as described in Appendix A.

Our empirical results are as follows. First, firms with higher management quality have, on average, a greater number of ATPs in their corporate charters.

³ The existing literature also advances a shareholder interest argument for the adoption of ATPs in corporate charters. Under the shareholder interest hypothesis, ATPs are adopted to increase the bargaining power of management when dealing with corporate acquisitions, thus yielding higher takeover premia for selling shareholders: see Comment and Schwert (1995), who document that ATPs are associated with higher takeover premia, and Linn and McConnell (1983), who document a positive announcement effect on firms' equity on the adoption of ATPs. While, like the long-term value creation hypothesis, the shareholder interest hypothesis also predicts that the adoption of ATPs increases shareholder wealth, it does not have any predictions for the relationship between the quality of a firm's management and the strength of the ATPs in its corporate charter, which is the primary focus of this paper.

Second, on average, firms with higher management quality and larger growth options have significantly more ATPs in their charters compared with all other firms. We also find that firms with higher management quality and a greater number of ATPs have, on average, better long-term post-IPO operating and stock return performance and higher IPO valuation compared with all other firms.

These results contradict the idea that the role of ATPs in IPO charters is solely to entrench firm management, for several reasons. First, if this were the case, one would expect firms with lower quality managers also to have a significant number of ATPs: in other words, the number of ATPs would not be increasing in management quality. Second, our finding that the number of ATPs is greater for firms with higher management quality and larger growth options indicates that ATPs may help higher quality managers undertake investments in long-term projects without fear of loss of control, if such projects are in temporary difficulties, by providing them some insulation from the takeover market. Finally, our finding that firms with higher quality management and a greater number of ATPs have better post-IPO performance and higher IPO valuation indicates that ATPs may be an efficient mechanism that enables higher quality managers to create greater shareholder value by investing in long-term projects without being subject to the short-term pressures generated by the market for corporate control.

Our paper is related to several strands in the literature. The first strand is the literature analyzing the role of ATPs in the context of various corporate events. Examples include Borokhovich, Brunarski, and Parrino (1997), who document that after a firm adopts ATPs, takeovers become less likely and managers tend to increase their own pay; Masulis, Wang, and Xie (2007), who document that acquirers with more ATPs have lower abnormal returns around the time of acquisition announcements; Garvey and Hanka (1999), who document that firms reduce debt levels after adopting ATPs; Hartzell, Kallberg, and Liu (2008), who use a sample of real estate investment trusts (REITs) to study the relationship between the corporate governance structure of a firm and its valuation at the time of IPO; and Field and Karpoff (2002) and Daines and Klausner (2001), who study ATPs in the context of firms going public. It is important to note that, while some of these papers investigate the relationship between ATPs in the corporate charters of firms going public and their subsequent performance, ours is the first paper that studies the role of management quality in this relationship.⁴

The second strand is the literature relating the prevalence of ATPs in a firm's corporate charter with shareholder value. A prominent example is Gompers,

⁴ Our paper is also related to the broader literature that links variation in state antitakeover statutes and the provisions in corporate debt covenants (see, for example, Qi and Wald 2008). It is also indirectly related to the literature analyzing the relationship between corporate governance mechanisms characterizing a firm and the incidence of earnings management or earnings restatement (see, for example, Agrawal and Chadha 2005).

Ishii, and Metrick (2003), who find that firms with a greater number of ATPs have lower stock returns. Core, Guay, and Rusticus (2006), however, question the finding, arguing that there is no conclusive evidence that having a greater number of ATPs causes poorer stock returns. In another related paper, Gompers, Ishii, and Metrick (2004) study the valuation of dual-class firms (as measured by Tobin's q) and document that firm value is increasing in firm insiders' cash flow ownership but decreasing in their voting ownership. They recognize, however, that management quality may be an omitted variable in their analysis. "It is . . . possible that these results are driven by some outside factor: e.g., valuation is driven by some measure of 'management quality,' and management quality in turn drives the particular form of dual-class structure adopted across firms" (Gompers, Ishii, and Metrick 2004, p. 20). To the extent that dual-class share structures are one of the several ATPs that a firm may include in its corporate charter, our analysis can be thought of as addressing their concern regarding the omission of management quality from existing studies.^{5,6}

The third strand is the newly emerging literature on the relationship between the management quality of a firm and various aspects of its IPO (Chemmanur and Paeglis 2005) or other financial policies (Bertrand and Schoar 2003). Unlike the present paper, which studies the relationship between management quality and the prevalence and effects of ATPs in a firm's IPO, the focus of Chemmanur and Paeglis (2005) is on the effects of management quality on IPO characteristics such as underpricing, underwriting spread, and other costs of going public; that paper therefore does not address any of the issues that we study here.⁷

By incorporating management quality in our analysis of the relationship between ATPs and corporate performance, our paper complements the important insights provided by the existing literature on why firms adopt ATPs in their corporate charters. Instead of merely entrenching firm managers and thus always reducing shareholder value, our analysis indicates that ATPs play a more nuanced role in affecting shareholder value: while having a greater number of ATPs may indeed destroy shareholder value in the hands of lower quality managers (possibly by entrenching them more strongly), we show that ATPs enhance shareholder value in the hands of higher quality managers. Thus, we provide a more complete picture of the relationship between ATPs and shareholder value. In particular, our analysis greatly enhances the understanding of how firms choose various ATPs to include in their corporate charters when they go public. Further, our

⁵ There are also a number of other papers studying the rationale for and valuation of dual-class voting structures in initial public offerings (IPOs). See, for example, Smart and Zutter (2003).

⁶ There are also a number of event studies of the adoption of ATPs. See, for example, DeAngelo and Rice (1983), Jarrell and Poulsen (1987), Karpoff and Malatesta (1989), and Bhagat and Jefferis (1991).

⁷ The present paper is also related to the broad theoretical and empirical literature on IPOs and the decision to go public. See, for example, Allen and Faulhaber (1989), Chemmanur (1993), and Welch (1989) on IPO underpricing and Chemmanur and Fulghieri (1999) on the decision to go public.

findings provide a rationale for the fact that the use of ATPs in IPOs has increased rather than decreased over time.

The rest of this paper is organized as follows. Section 2 summarizes the relevant theory and develops the hypotheses. Section 3 describes our data and sample selection procedure. Section 4 develops our measures of management quality and reputation and of firm quality and governance (used as control variables in our analysis). Section 5 presents our empirical tests and results. Section 6 concludes.

2. Theory and Hypotheses

There are two broad sets of theories that have implications for why firms adopt ATPs and for IPO valuation and post-IPO performance. The first set of theories can be thought of as emerging from the seminal works of Grossman and Hart (1988) and Harris and Raviv (1988, 1989), which imply that dual-class voting structures and other ATPs are inefficient.⁸ Their models consider a setting in which the incumbent management of a firm obtains not only cash flow or security benefits (arising from her equity ownership in the firm) but also private benefits from being in control; outside shareholders receive only security benefits. The models conclude that dual-class voting structures and other ATPs are value reducing since they reduce the chance of takeovers by rival management teams who can increase the cash flows to current shareholders by managing the firm better than the incumbent does. Thus, under these theories, ATPs are inefficient, and the only role of such provisions is to entrench existing management and reduce its chance of losing its benefits of control. We refer to this hypothesis as the managerial entrenchment hypothesis of ATPs.

In contrast, Chemmanur and Jiao (2012) consider a setting in which the incumbent management of a private firm wishes to sell equity to outsiders in an IPO to raise external financing for its project. The incumbent obtains both security benefits (from the equity she owns in the firm) and private benefits of control. The firm can adopt one of two projects: a long-term project or a short-term project. A long-term project is intrinsically more valuable than a short-term project and therefore maximizes long-term value. However, adopting it may cause the firm's equity to be undervalued in the short term, since it may show fewer signs of success in the short run than will a short-term project (in other words, a long-term project takes a longer time to resolve outsiders' uncertainty about a project's success or failure). Thus, the incumbent has a greater chance of losing control to potential rivals (even those less able than she) if she adopts the long-term project and if outside investors believe that the firm's project is not progressing well in the short term. Outside investors may vote for the rival in a control contest and replace the incumbent if the latter does not

⁸ See also Cary (1969) and Williamson (1975), who made earlier, more informal, arguments that ATPs act primarily to entrench incumbent management.

hold enough voting power on her own account to defeat such a rival.⁹ The incumbent may be talented or untalented: talented managers have a lower cost of exerting effort and a comparative advantage in implementing projects than do untalented managers. The incumbent's talent is private information: outsiders observe only a prior probability that she is talented (that is, her reputation or perceived management quality). In this situation, the incumbent makes a joint decision about the voting structure and other ATPs in the corporate charter for her firm's IPO, the kind of project to adopt (long-term or short-term), and the extent of effort to exert in implementing this project.

The equilibrium in Chemmanur and Jiao (2012) is driven by the choice made by a truly talented incumbent (since an untalented incumbent would mimic such choices in order to not reveal her true type to the equity market). The choice of a talented incumbent between adopting stronger versus weaker ATPs depends on three effects. First, the insulation from the takeover market provided by stronger ATPs would allow the incumbent to create more value by implementing a long-term rather than a short-term project. Second, such insulation also allows untalented incumbents to slack off by not exerting effort, thus dissipating value without any fear of losing control to potential rivals. Since equity markets cannot perfectly distinguish between talented and untalented incumbents, this loss-of-discipline effect is also reflected in the talented incumbent's firm's IPO share price if she adopts stronger ATPs (and favors her adopting weaker ATPs instead). Third, regardless of the kind of project adopted, there is a greater chance for incumbent management to maintain control under a corporate charter with stronger ATPs.

Chemmanur and Jiao (2012) show that when the reputation of incumbent management is high enough and the firm has greater opportunities for long-term value creation, in equilibrium, management would adopt an IPO charter with stronger ATPs. This is because the long-term value creation effect dominates any reduction in IPO share value arising from the loss of discipline effect, and such stronger ATPs will in fact be value enhancing for shareholders. We refer to this hypothesis of ATPs as the long-term value creation hypothesis.

The long-term value creation hypothesis leads to two testable predictions regarding the prevalence of ATPs in IPO firms' corporate charters. The first prediction is that, on average, higher quality managers will adopt corporate charters with a greater number of ATPs, which generates the first hypothesis that we test.

Hypothesis 1. Firms with higher quality management will be associated with a greater number of ATPs.

⁹ Stein (1988) has a model of corporate myopia in which takeover pressure under asymmetric information may make managers invest in short-term rather than in (higher value) long-term projects. However, unlike in Chemmanur and Jiao (2012), there is no role for management quality in the Stein (1988) analysis, so it does not have implications for the relationship between management quality and ATPs.

Notice that this is in direct opposition to the prediction of the managerial entrenchment hypothesis. While models of managerial entrenchment do not incorporate different levels of management quality, allowing for such variation in quality would imply that firms with less able management teams are more likely to have a greater number of ATPs under the managerial entrenchment hypothesis. This is because higher quality managers will be more able to resist future takeover attempts based on attracting votes from outside shareholders in a control contest, so lower quality managers will benefit more from (and therefore will adopt) a greater number of ATPs in their corporate charter.

The second prediction of the long-term value creation hypothesis is that among the firms with higher management quality, those with greater opportunity for long-term value creation (that is, larger growth options) are more likely to adopt a greater number of ATPs in their corporate charters. We divide the IPO sample into four groups based on management quality and growth options: higher management quality with larger growth options (group 1), higher management quality with smaller growth options (group 2), lower management quality with larger growth options (group 3), and lower management quality with smaller growth options (group 4). The prediction is that firms in group 1 will have the greatest number of ATPs (since they have the greatest opportunity for value creation) and that firms in group 4 will have the least number of ATPs (since they have the least opportunity for long-term value creation), which generates the second hypothesis that we test.

Hypothesis 2. Firms with higher quality management and larger growth options will be associated with the greatest number of ATPs, and firms with lower quality management and smaller growth options will be associated with the fewest ATPs.

The managerial entrenchment hypothesis predicts no direct relationship between the extent of growth options available to a firm and the strength of ATPs in its corporate charter.

The long-term value creation hypothesis also has predictions for the relationship among management quality, ATPs, and the post-IPO performance and IPO valuation of firms going public. Since under the long-term value creation hypothesis, having a greater number of ATPs is, in fact, value enhancing for firms with higher quality managers, the prediction is that there will be a positive relationship between the number of ATPs and post-IPO operating performance for such firms. We divide our IPO sample into four categories based on management quality as well as ATPs: higher management quality with stronger ATPs, higher management quality with weaker ATPs, lower management quality with stronger ATPs, and lower management quality with weaker ATPs. We predict that the post-IPO operating performance of firms in the category with higher management quality and stronger ATPs will, on average, be significantly better

than that of firms in the remaining three categories.¹⁰ Further, if investors anticipate the better operating performance of firms with higher management quality and stronger ATPs, the IPO valuation of this group will be higher than that of firms in the remaining three categories. Finally, since long-term post-IPO stock returns generally move together with post-IPO operating performance, the long-term value creation hypothesis also implies that firms in the first category would, on average, outperform those in the remaining three categories in terms of long-term post-IPO stock returns.¹¹ Thus, we test the following three hypotheses:

Hypothesis 3. Post-IPO operating performance of firms with higher quality management and a greater number of ATPs will be better than that of firms in the rest of the sample.

Hypothesis 4. The IPO valuation of firms with higher quality management and a greater number of ATPs will be higher than that of firms in the rest of the sample.

Hypothesis 5. Long-term post-IPO stock return performance of firms with higher quality management and a greater number of ATPs will be better than that of firms in the rest of the sample.

In contrast, the predictions of the managerial entrenchment hypothesis regarding the relationship between management quality and ATPs on the one hand and IPO valuation, post-IPO operating, and stock return performance on the

¹⁰ Note that, in the setting of Chemmanur and Jiao (2012), all four combinations will arise in equilibrium. This is because the number of ATPs included in a firm's corporate charter depends on the trade-off between the short-term and the long-term effects on top management's objective of including them in the corporate charter: while including a larger number of ATPs will lead to a lower short-term IPO share price (because of the loss-of-discipline effect discussed earlier), it will lead to a better long-term operating (and stock return) performance. Thus, we will observe both high-management-quality firms with stronger ATPs and high-management-quality firms with weaker ATPs. Further, since the equilibrium in Chemmanur and Jiao (2012) is a pooling equilibrium in which high- and low-management-quality firms pool together in the IPO market, we will also find low-management-quality firms with stronger ATPs and low-management-quality firms with weaker ATPs in their corporate charters.

¹¹ If outside investors are fully rational and the stock market is completely efficient, one should not observe any differences in the postissue long-run stock return performance of IPO firms with higher management quality and stronger ATPs versus the rest of the sample. If higher management quality and stronger ATPs increase the likelihood of long-term value creation, such information will be reflected in IPO offer price on the issue date: in other words, there will be no differences in the long-run returns measured subsequent to the issue date. If, however, investors are only boundedly rational, so this information is not fully reflected in the IPO offer price but is incorporated only over a longer period, then one would expect better long-run stock return performance from firms with higher management quality and stronger ATPs. Note that all long-run stock return studies around corporate events require the assumption of bounded rationality or limited market efficiency similar to the one we make here. One may consider this to be a strong assumption, but, given the large empirical literature documenting the postevent drift following earnings announcements and many other corporate events (see, for example, Foster, Olsen, and Shevlin 1984; Bernard and Thomas 1989), one has to at least consider the possibility that the information revealed by many corporate actions is not always instantaneously reflected in the stock price.

other are as follows. Given that it may lose control of its firm through a takeover, incumbent management will work harder to manage the firm and attract votes from outside shareholders if the probability of a successful takeover is greater. (See Chemmanur and Yan [2004] for a model that includes effort choice by incumbent management and incorporating the disciplinary effect of takeovers.) Since stronger ATPs reduce the chance of such credible takeover attempts from succeeding (that is, they reduce the threat of takeovers), the managerial entrenchment hypothesis implies that, regardless of management quality, firms with stronger ATPs will have poorer post-IPO operating performance, since incumbent management (whether of high or low quality) is likely to work less hard in such firms. Further, if investors rationally anticipate that firms with stronger ATPs will have poorer post-IPO operating performance, the managerial entrenchment hypothesis implies that such firms will have lower IPO valuations as well. Finally, since long-term stock returns generally move hand in hand with operating performance, the managerial entrenchment hypothesis also implies a negative relationship between the prevalence of ATPs in a firm's IPO corporate charter and post-IPO stock returns.

3. Data and Sample Selection

The list of IPOs of common equity between 1993 and 2000 comes from the Security Data Company (SDC)/Platinum Global New Issues database. After elimination of REITs, closed-end funds, unit offerings, equity carve outs, financial firms (all firms with Security Industry Classification [SIC] codes between 6000 and 6999), foreign companies, previous leveraged buyouts, roll ups, firms not found in the Center for Research in Security Prices (CRSP) and/or Compustat Industrial Annual databases, and firms for which CRSP and SDC show different first dates of trading, we are left with 2,644 firms in our sample.¹²

In order to isolate the effects of management quality on IPO performance and valuation, and to remove any confounding effects arising from the presence of venture capitalists (VCs) or institutional investors as firm backers, we confine our study to non-VC-backed firms and those with no institutional investors prior to the IPO. In addition to the direct effect of VCs on IPO performance and valuation (through VC certification), VCs can affect the management quality of IPO firms either by selecting managers or by performing various roles (for example, legal representation, selection of underwriters) that would be performed by management in non-VC-backed firms. (See, for example, Hellmann and Puri [2002], who find that VCs play a significant role in the professionalization of start-up firms in general and in the hiring of their top managers in particular.) Similar arguments apply to institutional investors as well. We therefore eliminate VC-backed firms and firms that have shareholdings (greater than 5 percent) by

¹² We did not explicitly screen out firms with offer prices below \$5. However, we have only 29 such firms in our sample. Excluding these firms does not alter our results.

Table 1
Initial Public Offerings by Year

	1993	1994	1995	1996	1997	1998	1999	2000	Total
Total	615	516	539	792	473	307	499	376	4,117
Unit offerings	91	108	85	119	24	12	2	3	444
Equity carve outs	98	68	40	64	36	26	39	30	401
Financial firms	48	29	31	62	71	67	44	10	362
Foreign firms	10	4	17	25	3	1	34	37	131
Former leveraged buyouts	40	12	10	12	3	0	0	5	82
Roll ups	0	0	2	8	7	9	2	1	29
CRSP/Compustat not available	3	4	1	4	3	2	1	1	19
Unclear first date of trading	0	2	0	1	0	1	0	1	5
Venture backed	128	106	169	253	155	100	288	239	1,438
Significant shareholders	72	60	82	108	51	38	45	31	487
Final sample	125	123	102	136	119	52	44	18	719

Note. CRSP = Center for Research in Security Prices.

financial institutions and corporations prior to the IPO (unless these entities are explicitly mentioned as wholly owned by firm insiders). This leaves us with 719 IPOs. (The information about shareholders is from the principal shareholders section of the IPO prospectuses.) Table 1 shows how we arrived at our final sample.

Various measures of management quality were hand collected from IPO prospectuses obtained from the Thomson Financial database. In particular, information on management team size and education level, former managerial experience, and tenure of the team members is from the management section of the prospectuses. Information on ATPs and internal governance mechanisms (such as chief executive officer [CEO]/chairman of the board duality, proportion of outside directors, and insider stock ownership) are obtained from the IPO prospectuses as well. Finally, stock returns are from CRSP, and accounting data are from Compustat.

4. Measures of Management Quality and Reputation and Firm Quality

4.1. Management Quality and Reputation

We use the following variables to measure the quality and reputation of a firm's management. First, management quality is affected by the amount of human and knowledge resources (including education and relevant work experience) available to a firm's management. This is measured by the number of executive officers and vice presidents on a firm's management team (TSIZE). Further, management quality depends on the education of management team members, which provides our second and third measures of management quality. We measure education in two ways, first, as the percentage of the management team with a master's of business administration (MBA) degree (PMBA) and, second, as the percentage of management team members who are certified public

accountants (PCPA). Higher percentages of MBAs and CPAs imply higher management quality.

Another contributing factor that increases management quality is relevant work experience, which provides our fourth and fifth measures of management quality. We measure work experience in two ways. First, we look at the percentage of management team members who have served as executive officers and/or vice presidents at other firms prior to joining the IPO firm (PFTEAM). Second, we look at the percentage of team members who have previously been partners in a law or accounting firm (PLAWACC). Clearly, expertise in law and accounting can be a useful asset to the firm at the time of going public and subsequently. In summary, the greater the value of these variables, the better the management quality.

The sixth measure of management quality we use is CEO dominance. On the one hand, a strong CEO may improve the cohesion of the management team. On the other hand, a strong-willed and dominating CEO may severely diminish possible contributions from other team members. Thus, while we believe that CEO dominance is an important measure of team quality, we are agnostic about the direction of the expected impact (positive or negative) of this measure. Our measure of CEO dominance is the ratio of CEO salary and bonus to the average salary and bonus of other team members listed in the executive compensation section of the prospectus in the fiscal year preceding the IPO (FCEO). Assuming that CEOs have a substantial influence over their own pay and nearly total influence over their subordinates' pay, this measure reflects the gap between the CEO's assessment of his own worth to the firm and his assessment of other team members' worth and is thus a good measure of CEO dominance.¹³

The seventh measure of management quality we use is the median tenure of the management team (TENURE), defined as the median number of years that team members have served with a firm. Longer median tenure may indicate cohesion and shared experiences and thus would imply lower transaction costs among team members.

However, longer tenures may also indicate the presence of complacency and rigidifying effects on team interactions. An ideal team would have members from different cohorts, which would allow for an inflow of new ideas and perspectives. Thus, higher management quality will be associated not only with a longer median tenure but also with a higher dispersion of tenures. Our eighth measure of management quality, therefore, is tenure heterogeneity, defined as the coefficient of variation of the team members' tenures (TENHET).

Table 2 summarizes our measures of management quality. The average (median) management team size (TSIZE) was 5.4 (5), with the smallest team consisting of only one person and the largest one of 15 members. On average, 7.5

¹³ Similar measures have been used in the strategy and organizational behavior literature to study the effect of management team quality on firm performance. D'Aveni (1990) and Hambrick and D'Aveni (1992) use such measures to study the deterioration of management team quality around bankruptcies.

Table 2
 Summary Statistics of Management Quality Variables for Firms with
 Initial Public Offerings 1993–2000

	N	Mean	Median	Min	Max	SD
TSIZE	719	5.424	5.000	1.000	15.000	2.223
PMBA	719	.075	.000	.000	.800	.145
PCPA	719	.118	.077	.000	.833	.141
PFTEAM	719	.381	.333	.000	1.000	.277
PLAWACC	719	.031	.000	.000	.750	.088
FCEO	711	1.381	1.259	.000	5.425	.584
TENURE	719	6.482	5.000	1.000	30.500	5.239
TENHET	718	2.172	.940	.000	22.854	2.911
MQFACT	711	.000	-.099	-1.311	3.132	.703

percent of managers had an MBA degree (PMBA), 11.8 percent were CPAs (PCPA), 38.1 percent had held a top management position at another firm prior to joining the IPO firm (PFTEAM), and 3.1 percent have been a partner in a law or accounting firm (PLAWACC). On average, CEOs were earning 38.1 percent more than the average member of their management team (FCEO). The median tenure ranged from 1 to 30.5 years, with a mean (median) of 6.5 (5.0) years.

Although these variables are expected to measure management quality and reputation, they may have unique limitations as a measure of the underlying unobservable construct. Thus, we use common factor analysis to construct a single variable for management quality that captures variation common to the various observable proxies of management quality.¹⁴ In order to ensure that this common factor captures only the effect of management quality and not that of firm quality variables such as firm size, we use firm-size-adjusted variables to extract that factor.¹⁵ The management quality factor score (MQFACT) is obtained using common factor analysis on firm-size-adjusted TSIZE, MBA, CPA, FTEAM, LAWACC, and FCEO. These variables refer, respectively, to the number of management team members, the number of MBAs on the management team, the number of CPAs on the management team, the number of team members with prior managerial experience at other firms, the number of team members who served as partners in law and accounting firms, and CEO dominance. Table 2 reports summary statistics of MQFACT.

We exclude TENURE and TENHET from this common factor analysis since these variables, unlike the others, have negative factor loadings and negative scoring coefficients if included in the factor analysis. The interpretation of

¹⁴ A number of papers in the empirical finance and accounting literature make use of factor analysis to isolate the unobservable construct underlying several proxy variables. See, for example, Gaver and Gaver (1993) and Guay (1999), who make use of factor analysis to study the size of a firm's investment opportunity set.

¹⁵ We adjust management quality variables for firm size by regressing each variable on firm size and then using the residuals from these regressions (that is, variation in management quality variables not explained by firm size) as firm-size-adjusted proxies of the management quality variables.

Table 3
Common Factor Analysis of Measures of Management Quality
for Firms with Initial Public Offerings 1993–2000

Measure	Communalities	Correlation between MQFACT and Measure
TSIZE	.2320	.8382
MBA	.0394	.3379
CPA	.0756	.3856
FTEAM	.1941	.7281
LAWACC	.0666	.3377
FCEO	.0136	.0625

MQFACT becomes problematic when some individual management quality variables have positive scoring coefficients and others have negative scoring coefficients. Thus, we restrict our common factor analysis to the first six individual management quality variables, since these have positive factor loadings and positive scoring coefficients, and use TENURE and TENHET as control variables in our multivariate analyses.¹⁶

Table 3 reports the results of this common factor analysis. It presents estimated starting communalities, calculated as the squared multiple correlations obtained from regressing each of the management quality measures on the other measures used in the factor analysis. As suggested by Harman (1976), the number of factors needed to approximate the original correlations among individual measures is equal to the number of summed eigenvalues needed to exceed the sum of communalities. The sum of communalities is .6213, which is less than the eigenvalue for the first factor in the factor analysis (.7980), which suggests that one factor parsimoniously explains the intercorrelations among the individual measures. Table 3 also reports the correlations between MQFACT and the original measures of management quality.

4.2. Proxies for Other Aspects of Firm Quality and Internal Governance and Control Variables

In order to separate the effects of management quality and reputation from those of other dimensions of firm quality and internal governance, we control for these other dimensions using the following proxies.¹⁷

¹⁶ The negative factor loadings and negative scoring coefficients for TENURE and TENHET are driven mostly by the negative correlations between TENURE and TENHET and other management quality variables such as the percentage of management team members with prior managerial experience at other firms and the percentage of management team members with MBA degrees (the correlation coefficients between TENURE [TENHET] and PFTeam are $-.52$ [$-.20$], and the correlation coefficients between TENURE [TENHET] and PMBA are $-.05$ [$-.03$]). Indeed, managers who have longer tenures with a firm are more likely to be bred internally rather than invited from outside and, thus, are less likely to have prior managerial experience at other firms. Similarly, managers who have spent a greater number of years with a firm are more likely to acquire their managerial skills internally rather than externally at an educational institution.

¹⁷ Similar proxies are used by Field and Karpoff (2002), a study of takeover defenses of IPO firms.

First, a common firm quality variable used in many IPO studies is firm size. We use the natural logarithm of the book value of a firm's assets immediately prior to its IPO as a proxy for the firm size (LNBVA). The larger the firm, the higher the firm quality.¹⁸ Second, we control for the proportion of outside directors (directors who are listed in the management section of the prospectus and are not executive officers of the company, founders, former employees, or anyone who is engaged in any kind of business dealings with the firm) on the board of directors (ODIR). There are two ways in which outside directors can influence firm quality. They may provide additional knowledge (inputs and perspectives) to the firm's management. They also provide linkages to external parties, such as underwriters, financial institutions, and auditors. The greater the proportion of outside directors, the higher the firm quality.¹⁹

Third, we control for insider stock ownership, defined as a proportion of voting power owned by executive officers and directors both before and after (depending on the particular analysis we conduct) the IPO (INSIDERB and INSIDERA, respectively). Sufficiently large insider stock ownership may serve as a substitute for ATPs. Fourth, we control for CEO/chairman of the board duality (BOSS). This dummy variable is equal to one if a firm's CEO is also a chairman of its board of directors and zero otherwise. Separation of the roles of a CEO and a chairman of the board creates greater management accountability and improves internal governance and firm quality.²⁰ Fifth, we control for underwriter reputation, since underwriters care for their reputation with potential buyers of IPO shares and may bargain with IPO firms to include optimal provisions in their corporate charters. Our underwriter reputation measure (REP) is the lead underwriter's share of the total proceeds raised by all IPOs in 1993–2000 (similar to Megginson and Weiss [1991]).

Sixth, we control for a firm's growth options measured as the ratio of the sum of capital expenditures and research and development expenses to the book value of assets prior to IPO (CERDA). We control for growth options since, according to our long-term value creation hypothesis, firms with higher quality managers that have greater growth options are more likely to use ATPs to shield themselves from unwanted takeover attempts and implement long-term value-creating projects (hypothesis 2). Seventh, we control for a firm's leverage (LEVERAGE), which is the ratio of long-term debt to the book value of assets prior to IPO.²¹ Eighth, we control for the existence of state-level ATPs (STATELAW), which is a dummy variable equal to one if the state in which an IPO firm is

¹⁸ This measure of firm quality has been widely used in the literature (see, for example, Ritter 1984; Michaely and Shaw 1994).

¹⁹ Some studies in the corporate control literature show that outside directors enhance firm value (see, for example, Cotter, Shivdasani, and Zenner 1997; Borokhovich, Parrino, and Trapani 1996).

²⁰ See, for example, Yermack (1997), who shows that firms that separate the roles of a chief executive officer (CEO) and a chairman of the board receive higher valuation, and Rechner and Dalton (1991), who show that such firms outperform those with combined roles of CEO and chairman.

²¹ Field and Karpoff (2002) argue that a firm's leverage, like its size, may have an effect on its vulnerability to takeovers and on the value of ATPs to it.

Table 4
 Summary Statistics of Firm Quality and Other Control Variables
 for Firms with Initial Public Offerings 1993–2000

	Mean	Median	Min	Max	SD
LNBVA	16.726	16.843	12.064	23.810	1.543
ODIR	.313	.333	.000	1.000	.264
INSIDERB	.813	.900	.056	1.000	.219
INSIDERA	.564	.592	.010	.983	.185
BOSS	.730	1.000	.000	1.000	.444
REP	.016	.001	.000	.175	.037
CERDA	.201	.081	.000	5.985	.450
LEVERAGE	.239	.140	.000	6.378	.400
STATELAW	.921	1.000	.000	1.000	.270
DELAWARE	.452	.000	.000	1.000	.498

Note. $N = 719$.

incorporated has at least one state ATP described in Appendix A and zero otherwise. We include this variable since state ATPs can serve as substitutes for firm-level ATPs (see, for example, Karpoff and Malatesta 1989; Field and Karpoff 2002). Finally, we include a dummy variable equal to one if an IPO firm is incorporated in the state of Delaware and zero otherwise (DELAWARE). Since 45 percent of IPO firms in our sample are incorporated in Delaware, we include this variable to control for the effect that Delaware corporate legislation may have on the likelihood of adopting ATPs. Table 4 summarizes our measures of firm quality, internal governance, and control variables.

5. Empirical Tests and Results

5.1. Relationship between Management Quality and the Prevalence of Antitakeover Provisions

The long-term value creation hypothesis predicts that higher quality managers will be more likely to have a greater number of ATPs in their firms' corporate charters prior to going public, insulating themselves from unwanted takeover bids and implementing long-term value creating projects (hypothesis 1). The managerial entrenchment hypothesis, however, predicts the opposite: lower quality managers will be more likely to adopt a greater number of ATPs in their firms' corporate charters prior to going public, insulating themselves from the market for corporate control and consuming private benefits of control. We first present the results of our univariate tests and then analyze these relationships using multivariate regressions.

5.1.1. Univariate Tests

Table 5 reports the frequencies of individual firm-level ATPs for our sample of IPO firms and the results of our univariate tests of the relationship between

the quality of a firm's management and the prevalence of ATPs. (Firm-level ATPs are described in Appendix A.)

First of all, it is worth noting that the frequencies of most of the firm-level ATPs in our sample of IPO firms in 1993–2000 increased sharply compared with the frequencies reported by Field and Karpoff (2002) for their sample of IPO firms in 1988–92. This finding provides further evidence that over time IPO firms increased the use of ATPs in their corporate charters as reported in previous studies (see, for example, Bebchuk 2003).²² For example, frequencies of the following ATPs almost doubled from the 1988–92 sample to the 1993–2000 sample: a restriction on the ability of common shareholders to call shareholder meetings (from 15.4 to 37.3 percent), an advance-notice requirement to call shareholder meetings (from 19.1 to 41.2 percent), unequal voting rights (from 5.4 to 10.3 percent), and a requirement to remove directors only for cause (from 12.8 to 24.5 percent). There is also a sizeable increase in the frequencies of such provisions as a staggered/classified board (from 36.2 to 43.5 percent), a blank-check preferred stock (from 85.1 to 93.6 percent), a stakeholder clause (from 4.0 to 7.0 percent), a restriction on action by written consent (from 23.0 to 26.0 percent), and a supermajority required to approve mergers (from 9.2 to 13.8 percent). On the other hand, frequencies of some other provisions decreased, for example, a supermajority required to replace directors (from 27.3 to 14.3 percent), a fair-price provision (from 9.7 to 3.5 percent), and a poison pill (from 2.3 to 1.4 percent).

To study the relationship between management quality and ATPs, we split our sample by the median management quality factor score and compare the frequencies of ATPs in these subsamples. We refer to the firms with below median management quality factor scores as “low-management-quality firms” and those with above median management quality factor scores as “high-management-quality firms.”

We find that management quality significantly affects the prevalence of ATPs in IPO firms. In particular, high-management-quality firms have significantly more ATPs regulating shareholder meetings. For example, the proportions of high-management-quality firms with a restriction on the ability of common shareholders to call shareholder meetings, with an advance-notice requirement, and with a restriction on action by written consent are greater by about 10 percentage points than those of low-management-quality firms with the same provisions. These differences are statistically significant at the 1 percent level. Further, the proportions of high-management-quality firms with a staggered board and a supermajority requirement to remove directors are significantly larger than those of low-management-quality firms with the same provisions. These differences are significant at the 5 and 10 percent levels, respectively. On

²² The median book value of assets prior to IPO reported by Field and Karpoff (2002) is \$27.7 million, while it is \$20.7 million for our sample. This indicates that these two samples are roughly comparable and the differences in reported frequencies of ATPs cannot be attributed to differences in IPO firm sizes.

Table 5
 Summary Statistics of Individual Firm-Level Antitakeover Provisions (ATPs) for Firms
 with Initial Public Offerings (IPOs) 1993–2000

Provision	Full Sample		Above Median				Below Median				Difference in Means <i>t</i> -Statistic	Difference in Medians <i>z</i> -Statistic	
	Mean	SD	MQFACT		Mean	SD	MQFACT		Mean	SD			
			Mean	Median			Mean	Median					
1. Antitakeover	.0153	0	.1228	.0056	0	.0750	.0253	0	.1572	0	.1572	0	-.2121*
2. Blank-check preferred stock	.9360	1	.2449	.9493	1	.2197	.9298	1	.2559	1	.2559	1	1.091
3. Staggered board	.4353	0	.4961	.4761	0	.5001	.4017	0	.4909	0	.4909	0	2.001*
4. Fair price	.0348	0	.1833	.0282	0	.1657	.0421	0	.2012	0	.2012	0	-1.010
5. Poison pills	.0139	0	.1172	.0169	0	.1291	.0112	0	.1056	0	.1056	0	.641
6. Stakeholder clause	.0695	0	.2545	.0676	0	.2514	.0730	0	.2606	0	.2606	0	-.283
Shareholder meeting restrictions:													
7. Meetings called only by directors or executives	.3727	0	.4839	.4338	0	.4963	.3174	0	.4661	0	.4661	0	3.223**
8. Supermajority required to call special meetings	.0181	0	.1333	.0169	0	.1291	.0197	0	.1390	0	.1390	0	-.274
9. Advance-notice requirement	.4117	0	.4925	.4620	0	.4993	.3652	0	.4822	0	.4822	0	2.630**
10. Restrictions on action by written consent	.2601	0	.4390	.3070	0	.4619	.2163	0	.4123	0	.4123	0	2.764**

Supermajority vote requirements:

11. Supermajority required to approve mergers	.1377	0	.3448	.1324	0	.3394	.1461	0	.3537	-.526	-.526
12. Supermajority required to replace directors	.1433	0	.3506	.1690	0	.3753	.1180	0	.3230	1.944*	1.940*
13. Supermajority required to amend charter and bylaws	.2976	0	.4575	.3042	0	.4607	.2949	0	.4567	.270	.270
14. Unequal voting rights	.1029	0	.3041	.0958	0	.2947	.1124	0	.3163	-.723	-.724
Miscellaneous ATPs:											
15. Directors can be removed only for cause	.2448	0	.4303	.2704	0	.4448	.2219	0	.4161	1.502	1.500
16. Merger must be approved by inside directors	.0028	0	.0527	.0056	0	.0750	.0000	0	.0000	1.418	1.417
17. Restrictions on transfer of common stock	.0362	0	.1868	.0310	0	.1735	.0421	0	.2012	-.791	-.791
18. Restrictions on votes each shareholder may cast	.0097	0	.0983	.0085	0	.0917	.0112	0	.1056	-.376	-.376
19. Prohibition of cumulative voting for election of directors	.7413	1	.4382	.7239	1	.4477	.7612	1	.4269	-1.137	-1.136
Total number of a firm's ATPs	4.2837	4	2.5905	4.5042	4	2.5505	4.1096	3	2.6145	2.037*	2.318*

Note. Values are means (frequencies) and medians of individual firm-level ATPs and the total number of a firm's ATPs. The management quality factor score (MQFACT) is obtained using common factor analysis on firm-size-adjusted TSIZE, MBA, CPA, FTEAM, LAWACC, and FCEO. Significance levels are based on the parametric *t*-test for the difference in means between the samples of firms with above or below median values for MQFACT and the Wilcoxon rank-sum test for the difference in medians between the two samples.

+ Significant at the .10 level.

* Significant at the .05 level.

** Significant at the .01 level.

the other hand, the proportion of high-management-quality firms with anti-greenmail provisions is significantly smaller than that of low-management-quality firms.

Table 5 also reports the means and medians of the total number of firm-level ATPs (1–19 in Appendix A). Firms with high-quality management teams have a significantly greater total number of ATPs than do firms with low-quality management teams. The mean (median) total number of ATPs of firms with above median management quality factor scores is 4.51 (4), and it is 4.11 (3) for firms with below median management quality factor scores; these differences are significant at the 5 percent level.

Our univariate tests in Table 5 indicate that higher management quality is associated with more ATPs in IPO firms, which provides support for the long-term value creation hypothesis (hypothesis 1) and contradicts the managerial entrenchment hypothesis.

5.1.2. Multivariate Tests

To study the relationship between management quality and the prevalence of ATPs in IPO firms, we estimate the following Poisson maximum-likelihood specification:

$$\begin{aligned} \text{ATP}_i = & \beta_0 + \beta_1 \text{TSIZE}_i + \beta_2 \text{PMBA}_i + \beta_3 \text{PCPA}_i + \beta_4 \text{PFTEAM}_i + \beta_5 \text{PLAWACC}_i \\ & + \beta_6 \text{FCEO}_i + \beta_7 \text{TENURE}_i + \beta_8 \text{TENHET}_i + \beta_9 \text{CERDA}_i + \beta_{10} \text{INSIDERB}_i \\ & + \beta_{11} \text{ODIR}_i + \beta_{12} \text{BOSS}_i + \beta_{13} \text{LNBVA}_i + \beta_{14} \text{LEVERAGE}_i + \beta_{15} \text{REP}_i \\ & + \beta_{16} \text{STATELAW}_i + \beta_{17} \text{DELAWARE}_i + \text{YEAR}_i + \text{IND}_i + \varepsilon_i, \end{aligned} \quad (1)$$

where the dependent variable is the total number of ATPs that a firm has prior to its IPO.²³ The terms YEAR and IND are year and industry (two-digit SIC code) dummies.

Regression 1 in Table 6 presents the results of the estimation of equation (1). We find that TSIZE, PMBA, and PCPA have a positive and significant impact on the total number of ATPs in IPO firms. The coefficient estimates of these independent variables are significant at the 5 percent level (except for PMBA, which is significant at the 1 percent level). We also find that firms with more

²³ It can be argued that unequal voting rights are significant takeover deterrents by themselves, and insiders of firms with unequal voting rights may not need additional ATPs for takeover protection. For example, in our sample, firms with unequal voting rights have significantly lower frequencies of staggered boards, restrictions on action by written consent, and requirements for directors to be removed for cause. However, at the same time, firms with unequal voting rights have significantly higher frequencies of requirements for meetings to be called only by directors or executives, advance-notice requirements, and restrictions on transfer of common stock. There are no statistically significant differences in frequencies of other ATPs between firms with versus without unequal voting rights. (These results are available on request.) This indicates that firms with unequal voting rights do adopt other ATPs in their corporate charters. Nevertheless, we repeated our analysis, excluding firms with unequal voting rights from our sample, and the results were similar to those reported here.

Table 6
 Relationship between Management Quality and the Prevalence of Antitakeover Provisions (ATPs) for Firms with Initial Public Offerings 1993–2000

	ATP				ATPDUM			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	-1.278* (-2.35)	-1.207* (-2.24)			-9.642** (-7.04)	-9.682** (-7.28)		
MQFACT		.067* (2.29)		.052 ⁺ (1.71)		.400** (2.89)		
TSIZE	.023* (2.36)		.020* (1.98)		.108* (2.31)		.106* (2.17)	.357* (2.47)
PMBA	.351** (2.79)		.246 ⁺ (1.91)		1.901** (2.97)		1.602* (2.40)	
PCPA	.309* (2.08)		.176 (1.15)		1.800 (2.76)**		1.647* (2.42)	
PFTTEAM	-.067 (-.82)		-.108 (-1.27)		-.036 (-.10)		-.195 (-.52)	
PLAWACC	.287 (1.22)		.405 (1.68)		.943 (.91)		1.545 (1.40)	
FCFO	.058* (1.74)		.041 ⁺ (1.21)		.368* (2.25)		.250 (1.53)	
TENURE	.004 (.81)	.005 (1.13)	.002 (.46)	.004 (.90)	.004 (.19)	.011 (.56)	-.000 (-.01)	.009 (.43)
TENHET	.000 (.07)	.004 (.59)	.004 (.57)	.007 (1.01)	.033 (.94)	.043 (1.25)	.042 (1.15)	.055 (1.57)
CERDA	.048 (.89)	.050 (.94)	.030 (.51)	.034 (.58)	.192 (.93)	.166 (.80)	.083 (.37)	.064 (.28)
INSIDERB	-.081 (-.88)	-.073 (-.80)	-.102 (-1.07)	-.096 (-1.01)	-.749* (-1.75)	-.710* (-1.70)	-.707 (-1.58)	-.694 (-1.57)
ODIR	.021 (.28)	.018 (.24)	.071 (.91)	.068 (.87)	-.182 (-.53)	-.151 (-.45)	-.020 (-.05)	-.010 (-.03)
BOSS	-.003 (-.07)	.002 (.05)	.003 (.06)	.005 (.11)	-.095 (-.47)	-.097 (-.49)	-.101 (-.47)	-.110 (-.52)
LNBSVA	.105** (5.95)	.126** (7.81)	.092** (5.00)	.110** (6.52)	.389** (5.02)	.482** (6.56)	.369** (4.58)	.445** (5.79)
LEVERAGE	-.064 (-1.11)	-.075 (-1.34)	-.111* (-1.81)	-.120* (-2.00)	.079 (.35)	.010 (.05)	-.046 (-.19)	-.090 (-.40)
REP	.282 (.54)	.328 (.62)	.532 (.99)	.612 (1.15)	5.094 (1.63)	4.636 (1.54)	5.192* (1.65)	4.855 (1.59)
STATELAW	.563** (5.93)	.566** (6.00)			2.015** (4.92)	1.961** (4.93)		
DELAWARE	.040 (.99)	.032 (.81)			.112 (.61)	.044 (.25)		
State fixed effects	No	No	Yes	Yes	No	No	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	No	No	No	No
N	711	711	707	707	711	711	678	678
Pseudo R ²	.0925	.0871			.1855	.1644	.1545	.1346

Note. Columns 1–4 present the results of Poisson maximum likelihood regressions; columns 5–8 present the results of logit regressions. Dependent variables are ATP, which is the total number of firm-level ATPs (1–19 in Appendix A), and ATPDUM, which is equal to one if a firm has four or more ATPs and zero otherwise. All regressions include year dummies. Values in parentheses are *t*-statistics.

⁺ Significant at the .10 level.

* Significant at the .05 level.

** Significant at the .01 level.

dominating CEOs (FCEO) have a greater number of ATPs. The coefficient estimate of this variable is significant at the 10 percent level. These results are also economically significant. For a firm with the median number of four ATPs, increases of 1 standard deviation in management team size (TSIZE) and the percentage of MBAs in a management team (PMBA) lead to an increase in the number of ATPs by .21; this represents a 5.2 percent increase over the median number of ATPs. In addition, for a firm with the median number of four ATPs, an increase of 1 standard deviation in the percentage of CPAs in a management team (PCPA) and CEO dominance (FCEO) lead to increases in the number of ATPs by .18 and .14, respectively; these represent increases of 4.2 and 3.5 percent over the median number of ATPs, respectively.

In regression 2, we replace individual management quality variables with MQFACT. This regression also shows a significant positive relationship between management quality and the number of ATPs; the coefficient estimate of MQFACT is positive and significant at the 5 percent level. For a firm with the median number of four ATPs, an increase of 1 standard deviation in MQFACT leads to an increase in the number of ATPs by .19; this represents a 4.9 percent increase over the median number of ATPs.

In regressions 3 and 4, we drop STATELAW and DELAWARE and estimate state-of-incorporation fixed-effects models. The results are qualitatively similar to those of regressions 1 and 2; TSIZE, PMBA, PLAWACC, and MQFACT have a positive and significant effect on the total number of ATPs.

Next we repeat the analysis using logit regressions with a dependent variable equal to one if an IPO firm has four or more ATPs (firms with stronger anti-takeover protection) and zero otherwise (firms with weaker antitakeover protection).²⁴ The results of these logit regressions (regressions 5–8) confirm the results of our Poisson maximum-likelihood estimations. In regression 5, with individual management quality variables, PMBA, PCPA, TSIZE, and FCEO have a positive and significant impact on the prevalence of ATPs in IPO firms. The coefficient estimates of PMBA and PCPA are significant at the 1 percent level, and the coefficient estimates of TSIZE and FCEO are significant at the 5 percent level. These results are also economically significant. For a firm facing equal probabilities of having stronger versus weaker antitakeover protection, increases of 1 standard deviation in PMBA, PCPA, TSIZE, and FCEO lead to increases of 6.9, 6.3, 6.0, and 5.3 percentage points in the probability of having stronger antitakeover protection, respectively.

In regression 6, we use MQFACT in place of individual management quality variables; MQFACT has a positive and significant influence on the prevalence of ATPs, with its coefficient estimate significant at the 1 percent level. For a firm facing equal probabilities of having stronger versus weaker antitakeover protec-

²⁴ We use four or more ATPs as a cutoff number since it roughly divides the sample into two equal parts: there are 338 firms in our sample with three or fewer ATPs in their corporate charters and 381 firms with four or more ATPs in their corporate charters. Our results are generally robust to other cutoff numbers.

tion, an increase of 1 standard deviation in the management quality factor score leads to an increase of 7.0 percentage points in the probability of having stronger antitakeover protection.

In regressions 7 and 8, we drop STATELAW and DELAWARE and estimate state-of-incorporation fixed-effects models. The results are qualitatively similar to those of regressions 5 and 6; TSIZE, PMBA, PCPA, and MQFACT have a positive and significant effect on the prevalence of ATPs in IPO firms.²⁵

Both our univariate and multivariate tests of the relationship between management quality and the prevalence of ATPs in IPO firms show that firms with higher quality managers have a significantly greater number of ATPs prior to IPO. These findings support the long-term value creation hypothesis (hypothesis 1) and contradict the managerial entrenchment hypothesis.

5.2. Relationship among Management Quality, Growth Options, and the Prevalence of Antitakeover Provisions

The long-term value creation hypothesis predicts that stronger ATPs are more likely to be adopted by higher quality managers of firms that have larger growth options (firms with the greatest potential for long-term value creation) and are less likely to be adopted by lower quality managers of firms that have smaller growth options (firms with the smallest potential for long-term value creation; hypothesis 2).

To study the interaction between management quality and growth options and their impact on the prevalence of ATPs, we split our sample into four groups. In group 1 we place firms with above median management quality factor score (MQFACT) and above median growth options (CERDA). In group 2 we place firms with above median management quality factor score and below median growth options. In group 3 we place firms with below median management quality factor score and above median growth options. Finally, in group 4 we place firms with below median management quality factor score and below median growth options. We create dummies for each group and use them as independent variables (instead of management quality and growth option variables) in equation (1).

Table 7 reports the results of Poisson maximum-likelihood regressions of the total number of ATPs on the management quality and growth option group dummies and control variables. In regression 1, we include only the dummy variable for group 1. The coefficient estimate is positive and statistically significant at the 5 percent level. This indicates that firms with higher management quality

²⁵ We also investigated how management quality affects the likelihood of having individual ATPs (these results are available on request). For example, MQFACT has a significant and positive influence on the likelihood of IPO firms having a staggered board, a restriction on shareholders' ability to call shareholder meetings, an advance-notice requirement, and a supermajority requirement to remove directors. These results confirm the positive relationship between management quality and the prevalence of ATPs in IPO firms' corporate charters on both the aggregate and the individual provision levels.

Table 7
 Relationship among Management Quality, Growth Options, and the Prevalence of
 Antitakeover Provisions (ATPs) for Firms with Initial Public Offerings 1993–2000

	(1)	(2)	(3)	(4)
Constant	-1.371* (-2.55)	-1.240* (-2.32)		
GROUP1	.111* (2.44)		.100* (2.13)	
GROUP2		-.066 (-1.17)		-.068 (-1.19)
GROUP3		-.075 (-1.34)		-.050 (-.85)
GROUP4		-.219** (-3.75)		-.207** (-3.45)
TENURE	.003 (.67)	.005 (1.11)	.002 (.60)	.004 (.86)
TENHET	.004 (.58)	.005 (.67)	.007 (1.01)	.008 (1.11)
INSIDERB	-.067 (-.73)	-.071 (-.77)	-.087 (-.92)	-.090 (-.95)
ODIR	.007 (.10)	-.011 (-.15)	.058 (.74)	.038 (.49)
BOSS	.007 (.16)	.002 (.06)	.012 (.26)	.005 (.11)
LNBVA	.130** (8.21)	.129** (8.08)	.114** (6.90)	.113** (6.76)
LEVERAGE	-.063 (-1.16)	-.067 (-1.25)	-.114 ⁺ (-1.93)	-.117* (-1.99)
REP	.379 (.72)	.270 (.52)	.629 (1.18)	.530 (.99)
STATELAW	.556** (5.91)	.564** (5.97)		
DELAWARE	.040 (1.02)	.035 (.88)		
State fixed effects	No	No	Yes	Yes
N	711	711	707	707
Pseudo R ²	.0871	.0898		

Note. Coefficients are from Poisson maximum-likelihood regressions with the dependent variable equal to the total number of ATPs (1–19 in Appendix A). All regressions include year and industry dummies. GROUP1 through GROUP4 are dummy variables representing four management quality and growth option groups. Values in parentheses are *t*-statistics.

⁺ Statistically significant at the .10 level.

* Statistically significant at the .05 level.

** Statistically significant at the .01 level.

and larger growth options have a significantly greater number of ATPs than the rest of the sample. This result is also economically significant. A firm with the median number of four ATPs in groups 2, 3, and 4 will have .47 more ATPs if moved to group 1; this represents an 11.7 percent increase over the median number of ATPs.

In regression 2, we use group 2, 3, and 4 dummies. The coefficient estimates of these dummies are $-.07$, $-.08$, and $-.22$, respectively, and only the coefficient estimate of the group 4 dummy is significant at the 1 percent level. This indicates that firms in those groups have fewer ATPs than firms in group 1 and that firms in group 4 have significantly fewer ATPs than firms in group 1. This result is also economically significant. A firm with the median number of four ATPs in group 1 will have .79 fewer ATPs if moved to group 4; this represents a 19.6 percent decrease over the median number of ATPs.

In regressions 3 and 4, we drop STATELAW and DELAWARE and estimate state-of-incorporation fixed-effects models. The results are qualitatively similar to those of regressions 1 and 2; the coefficient estimate of the group 1 dummy is positive and significant in regression 3, and that of the group 4 dummy is negative and significant in regression 4. Thus, our findings in Table 7 provide support for hypothesis 2.

5.3. *Relationship among Management Quality, Antitakeover Provisions, and Post-Initial Public Offering Operating Performance*

The long-term value creation hypothesis predicts that firms with higher quality managers that have a greater number of ATPs will use this protection to implement long-term value-creating projects. Implementation of these projects will be reflected in a better post-IPO operating performance for such firms compared with the rest of the firms in the IPO sample (hypothesis 3). The managerial entrenchment hypothesis, on the other hand, predicts that regardless of management quality, firms associated with a greater number of ATPs will be more likely to have poorer post-IPO operating performance because of the loss-of-discipline effect.

We use four measures of operating performance: OIBD/Assets, ROA, profit margin, and OIBD/Sales, where OIBD is the operating income before depreciation plus interest income (Compustat items 13 and 15), Assets are the book value of total assets (item 6), ROA is the ratio of net income (item 172) over assets, and profit margin is the ratio of net income over sales (item 12). We further adjust these measures for industry performance by subtracting contemporaneous industry (two-digit SIC code) medians.

We split our sample into two roughly equal groups: firms with stronger antitakeover protection and firms with weaker antitakeover protection. Table 8 compares industry-adjusted median operating performance measures of firms in these two groups for the year of IPO (year 0) and the subsequent 4 years.

Consistent with the findings in the previous literature, the operating performance of all IPOs deteriorates in the years after the IPO, irrespective of the level of antitakeover protection.²⁶ However, firms with stronger antitakeover protection consistently and significantly outperform firms with weaker antitakeover protection (median tests are significant at the 1 percent level) in all years after the IPO. These results contradict the managerial entrenchment hypothesis.

To test the hypothesis that higher quality managers use ATPs to ward off unwanted takeovers and implement long-term value-creating projects (hypothesis 3), we split our sample into two groups. In group A we place firms with an above median management quality factor score and four or more ATPs. We place the rest of the sample in group B. In other words, group A represents firms with higher quality managers and stronger antitakeover protection. We then compare the post-IPO operating performances of group A and group B.

Table 9 compares industry-adjusted median operating performance measures of firms in group A with those of firms in group B for the year of IPO (year 0) and 4 years afterward. The median industry-adjusted operating performance measures of firms in group A are consistently greater than those of firms in

²⁶ See, for example, Jain and Kini (1994) and Mikkelsen, Partch, and Shah (1997), who document declining operating performance for IPO firms in the years after going public and provide various explanations such as insiders timing their issues to follow periods of good performance, increased agency costs, window dressing accounting numbers prior to going public, and increased asset base.

Table 8
 Relationship between Antitakeover Provisions (ATPs) and Post-Initial Public Offering (IPO) Operating Performance for Firms with IPOs 1993–2000

Performance Measure	Stronger Antitakeover Protection		Weaker Antitakeover Protection		Difference in Medians z-Statistic
	%	N	%	N	
OIBD/Assets 0	5.42	371	2.61	332	4.143**
OIBD/Assets 1	3.40	354	-1.05	313	4.610**
OIBD/Assets 2	3.59	319	-1.18	282	4.289**
OIBD/Assets 3	3.54	294	-.76	262	4.409**
OIBD/Assets 4	3.39	259	.85	225	3.090**
ROA 0	4.56	371	2.78	332	3.278**
ROA 1	3.10	355	.33	314	4.484**
ROA 2	2.09	320	-.85	283	4.316**
ROA 3	2.66	295	-1.03	265	5.153**
ROA 4	1.73	261	.03	227	3.344**
Profit margin 0	2.88	369	1.98	325	3.271**
Profit margin 1	2.27	355	-.02	311	4.035**
Profit margin 2	1.44	319	-.89	282	4.057**
Profit margin 3	2.08	294	-1.00	261	5.333**
Profit margin 4	1.30	261	-.24	225	3.384**
OIBD/Sales 0	4.25	369	1.37	325	4.272**
OIBD/Sales 1	3.04	354	-.56	310	4.120**
OIBD/Sales 2	2.65	318	-1.40	281	4.679**
OIBD/Sales 3	3.54	293	-.23	259	4.584**
OIBD/Sales 4	2.21	259	.00	222	3.706**

Note. Values are median levels of industry-adjusted operating performance of IPO firms by the prevalence of ATPs. Firms with stronger antitakeover protection have four or more ATPs; firms with weaker antitakeover protection have three or fewer ATPs. All performance measures are adjusted for industry performance by subtracting contemporaneous industry (two-digit Security Industry Classification code) medians. Year 0 is the year of IPO. Significance levels are based on the Wilcoxon rank-sum test for the difference in medians.

** Significant at the .01 level.

group B in the year of IPO and all of the following 4 years across all four measures of operating performance. Firms in group A significantly outperform firms in group B in at least 3 out of 5 years after the IPO (including the year of IPO). For example, firms in group A significantly outperform firms in group B in years 0, 3, and 4 based on ROA, profit margin, and OIBD/Sales measures and in years 1, 3, and 4 based on the OIBD/Assets measure.

These results provide support for the long-term value creation hypothesis (hypothesis 3). Along with our results from Section 5.2, where we presented evidence that higher management quality firms use a greater number of ATPs in their corporate charters when they have long-term value-increasing projects (larger growth options), these results suggest that IPO firms with higher quality managers use ATPs to protect themselves against potential takeovers and implement long-term value-creating projects, thus obtaining better post-IPO operating performance than the rest of the IPO firms.

Table 9

Relationship among Management Quality, Antitakeover Provisions (ATPs), and Post-Initial Public Offering (IPO) Operating Performance for Firms with IPOs 1993–2000

Performance Measure	Group A		Group B		Difference in Medians z-Statistic
	%	N	%	N	
OIBD/Assets 0	4.55	202	3.98	494	1.413
OIBD/Assets 1	3.40	190	1.38	469	1.955 ⁺
OIBD/Assets 2	1.85	168	.92	426	1.439
OIBD/Assets 3	3.50	155	1.35	395	2.205*
OIBD/Assets 4	3.46	133	1.64	345	1.650 ⁺
ROA 0	4.21	202	3.27	494	1.752 ⁺
ROA 1	2.87	191	1.49	470	1.353
ROA 2	1.77	168	.63	428	1.092
ROA 3	2.88	155	.57	399	2.555*
ROA 4	1.88	134	.65	348	1.972*
Profit margin 0	3.09	201	2.31	487	2.215*
Profit margin 1	1.78	191	1.14	467	.566
Profit margin 2	1.18	167	.31	427	.615
Profit margin 3	2.31	154	.19	396	2.849**
Profit margin 4	1.92	134	.28	346	1.783 ⁺
OIBD/Sales 0	4.91	201	2.51	487	2.653**
OIBD/Sales 1	2.51	190	1.03	466	1.514
OIBD/Sales 2	2.20	167	.24	425	1.465
OIBD/Sales 3	3.32	154	.73	393	2.417*
OIBD/Sales 4	2.03	133	.95	342	1.719 ⁺

Note. Values are median levels of industry-adjusted operating performance of IPO firms. Group A represents firms with above median management quality factor scores and four or more ATPs. Group B represents the rest of the sample. All performance measures are adjusted for industry performance by subtracting contemporaneous industry (two-digit Security Industry Classification code) medians. Year 0 is the year of IPO. Significance levels are based on the Wilcoxon rank-sum test for the difference in medians.

⁺ Significant at the .10 level.

* Significant at the .05 level.

** Significant at the .01 level.

5.4. Relationship among Management Quality, Antitakeover Provisions, and Initial Public Offering Firm Valuation

According to the long-term value creation hypothesis, IPO firms with a greater number of ATPs and higher management quality will receive a higher valuation at the IPO stage than will the rest of the sample (hypothesis 4), since the market perceives that such firms will use antitakeover protection to implement long-term value-creating projects. In contrast, the managerial entrenchment hypothesis predicts that, regardless of management quality, IPO firms with a greater number of ATPs will receive a lower IPO valuation since ATPs tend to entrench management at the expense of firm shareholders.

We measure IPO firm valuation by Tobin's q , which is the ratio of the market value of assets to the book value of assets, where the market value of assets is equal to the book value of assets minus the book value of common equity plus the number of shares outstanding multiplied by the IPO offer price. We also use industry-adjusted Tobin's q , which is the difference between the IPO firm's

Tobin's q and the median of its two-digit SIC code industry peers. We measure Tobin's q for industry peers the same way as for IPO firms and calculate their market value of assets using the share price at the end of the issue month. The book value of assets, the book value of equity, and the number of shares outstanding for both IPO firms and industry peers are taken from the first available post-IPO quarter on Compustat.

We run ordinary least squares (OLS) regressions of IPO firms' Tobin's q and industry-adjusted Tobin's q on ATP or ATPDUM and other control variables, where ATP is the total number of ATPs (1–19 in Appendix A) and ATPDUM is a dummy variable equal to one if a firm has four or more ATPs and zero otherwise. Table 10 reports the results of these regressions. The coefficient estimates of ATP and ATPDUM are positive in all specifications, although not statistically significant. These findings indicate that, although there is a positive relationship between the strength of antitakeover protection and IPO firm valuation, ATPs alone do not significantly influence IPO firm valuation and thus do not provide support for the managerial entrenchment hypothesis.

We test the long-term value creation hypothesis (hypothesis 4) by running OLS regressions of IPO firms' Tobin's q and industry-adjusted Tobin's q on GROUPADUM and control variables, where GROUPADUM is a dummy variable equal to one for firms with above median management quality factor scores and four or more ATPs (in other words, GROUPADUM is equal to one for firms in group A as described in Section 5.3) and zero for the rest of the sample. Table 11 reports the results of these regressions. In regression 1, where we use Tobin's q as a dependent variable, GROUPADUM has a positive coefficient estimate of .22, which is significant at the 5 percent level. This indicates that IPO valuations of firms in group A are significantly larger (by .22) than those of firms in group B. This difference represents a 9 percent increase over the median Tobin's q .

In regression 2, where we use industry-adjusted Tobin's q as a dependent variable, GROUPADUM has a positive coefficient estimate of .20, which is significant at the 5 percent level. This indicates that IPO valuations of firms in group A are significantly larger than those of firms in group B by .20. This difference represents a 28 percent increase over the median industry-adjusted Tobin's q .

In regressions 3 and 4, we drop STATELAW and DELAWARE and estimate state-of-incorporation fixed-effects models. The results are qualitatively similar to those of regressions 1 and 2; the coefficient estimates of GROUPADUM are positive and significant at the 10 percent level.

These results provide support for the long-term value creation hypothesis and indicate that firms with higher management quality and a greater number of ATPs receive a significantly higher valuation at the time of IPO than does the rest of the sample.

Table 10
 Relationship between Antitakeover Provisions (ATPs) and Initial Public Offering (IPO) Firm Valuation for Firms with IPOs 1993–2000

	Tobin's q (1)	Industry-Adjusted Tobin's q (2)	Tobin's q (3)	Industry-Adjusted Tobin's q (4)	Tobin's q (5)	Industry-Adjusted Tobin's q (6)	Tobin's q (7)	Industry-Adjusted Tobin's q (8)
Constant	4.129** (3.18)	4.265** (7.07)	4.023** (3.10)	4.179** (6.88)	4.297** (3.26)	4.040** (6.53)	4.236** (3.21)	3.987** (6.42)
ATP	.024 (1.28)	.029 (1.56)			.020 (1.01)	.027 (1.36)		
ATPDUM	.225** (3.15)	.159* (2.40)	.229** (3.21)	.164* (2.46)	.209** (2.84)	.147* (2.13)	.009 (.09)	.043 (.42)
MQFACT	-.011 (-1.12)	-.012 (-1.29)	-.011 (-1.08)	-.012 (-1.25)	-.012 (-1.18)	-.015 (-1.54)	-.012 (-1.15)	-.015 (-1.51)
TENHET	-.021 (-1.21)	-.024 (-1.58)	-.021 (-1.21)	-.025 (-1.60)	-.018 (-1.01)	-.022 (-1.39)	-.017 (-.98)	-.022 (-1.40)
CERDA	.372** (3.29)	.245* (2.13)	.376** (3.32)	.244* (2.11)	.479** (3.81)	.303* (2.33)	.483** (3.83)	.300* (2.31)
INSIDRB	.133 (.63)	.255 (1.25)	.128 (.60)	.248 (1.22)	.058 (.26)	.255 (1.19)	.049 (.22)	.245 (1.15)
ODIR	-.090 (-.52)	-.081 (-.48)	-.088 (-.51)	-.076 (-.45)	-.128 (-.70)	-.112 (-.63)	-.122 (-.67)	-.105 (-.59)
BOSS	.009 (.09)	-.016 (-.16)	.010 (.10)	-.014 (-.14)	.044 (.41)	.015 (.14)	.044 (.42)	.017 (.17)
LNBA	-.192** (-5.00)	-.203** (-5.83)	-.183** (-4.76)	-.195** (-5.58)	-.202** (-5.01)	-.207** (-5.65)	-.193** (-4.79)	-.199** (-5.41)
LEVERAGE	.112 (.95)	.067 (.59)	.105 (.89)	.063 (.55)	.181 (1.48)	.096 (.81)	.171 (1.40)	.088 (.74)
REP	4.652** (3.39)	4.920** (3.77)	4.701** (3.42)	5.005** (3.83)	4.738** (3.36)	5.071** (3.79)	4.808** (3.41)	5.182** (3.87)
STATELAW	-.040 (-.23)	-.363* (-2.14)	-.009 (-.05)	-.329+ (-1.95)				
DELAWARE	.103 (1.11)	.116 (1.26)	.107 (1.14)	.119 (1.29)				
State fixed effects	No	No	No	No	Yes	Yes	Yes	Yes
Year dummies	Yes	No	Yes	No	Yes	No	Yes	No
Industry dummies	Yes	No	Yes	No	Yes	No	Yes	No
Pseudo R^2	.3271	.1161	.3255	.1136	.3268	.1109	.3257	.1087

Note. Coefficients are from ordinary least squares regressions with Tobin's q and industry-adjusted Tobin's q as dependent variables. Tobin's q is measured as the ratio of the market value of assets to the book value of assets, where the market value of assets is equal to the book value of assets plus the book value of common equity minus the number of shares outstanding times the offer price (for IPO firms) or times the share price at the end of the issue month (for industry peers). The book value of assets, the book value of equity, and the number of shares outstanding both for IPO firms and industry peers are taken from the first available post-IPO quarter on Compustat. Industry-adjusted Tobin's q is the difference between the IPO firm's Tobin's q and the median of its two-digit Security Industry Classification code industry peers. Tobin's q and industry-adjusted Tobin's q are winsorized at the 99th percentile. Values in parentheses are t -statistics. $N = 704$.

+ Significant at the .10 level.
 * Significant at the .05 level.
 ** Significant at the .01 level.

Table 11
 Relationship among Management Quality, Antitakeover Provisions (ATPs), and Initial
 Public Offering (IPO) Firm Valuation for Firms with IPOs 1993–2000

	Tobin's q		Industry-Adjusted Tobin's q		Tobin's q		Industry-Adjusted Tobin's q	
	(1)		(2)		(3)		(4)	
Constant	3.802**	(2.93)	4.150**	(6.95)	4.032**	(3.05)	3.990**	(6.46)
GROUPADUM	.221*	(2.15)	.202*	(2.05)	.182 ⁺	(1.69)	.173 ⁺	(1.68)
TENURE	-.018 ⁺	(-1.88)	-.016 ⁺	(-1.80)	-.019 ⁺	(-1.92)	-.020*	(-2.05)
TENHET	-.021	(-1.24)	-.026 ⁺	(-1.72)	-.018	(-1.00)	-.024	(-1.49)
CERDA	.374**	(3.29)	.251*	(2.18)	.487**	(3.85)	.313*	(2.41)
INSIDERB	.131	(.61)	.239	(1.17)	.045	(.20)	.227	(1.06)
ODIR	-.115	(-.66)	-.103	(-.61)	-.154	(-.84)	-.133	(-.75)
BOSS	.025	(.25)	-.005	(-.05)	.059	(.55)	.027	(.26)
LNBVA	-.177**	(-4.73)	-.191**	(-5.64)	-.189**	(-4.79)	-.198**	(-5.52)
LEVERAGE	.107	(.91)	.061	(.53)	.172	(1.41)	.087	(.73)
REP	4.830**	(3.50)	5.086**	(3.89)	4.925**	(3.48)	5.259**	(3.93)
STATELAW	-.046	(-.27)	-.347*	(-2.09)				
DELAWARE	.115	(1.23)	.127	(1.38)				
State fixed effects	No		No		Yes		Yes	
Year dummies	Yes		No		Yes		No	
Industry dummies	Yes		No		Yes		No	
Pseudo R^2	.3189		.1100		.3194		.1055	

Note. Coefficients are the results of ordinary least squares regressions with Tobin's q and industry-adjusted Tobin's q as dependent variables. Tobin's q and industry-adjusted Tobin's q are winsorized at the 99th percentile. Values in parentheses are t -statistics. $N = 704$.

⁺ Significant at the .10 level.

* Significant at the .05 level.

** Significant at the .01 level.

5.5. Relationship among Management Quality, Antitakeover Provisions, and Post-Initial Public Offering Stock Return Performance

The long-term value creation hypothesis predicts that firms with higher quality managers and stronger antitakeover protection will use such defenses to implement long-term value-creating projects. This will be reflected in a better post-IPO stock return performance for such firms (hypothesis 5). In contrast, the managerial entrenchment hypothesis predicts that regardless of management quality, firms with stronger antitakeover protection will have poorer post-IPO long-term stock returns because of the loss-of-discipline effect.

We study stock return performance of IPO firms relative to various benchmarks: NASDAQ equal- and value-weighted indices, CRSP equal- and value-weighted indices, and the Standard & Poor's 500 Index. We calculate a 5-year holding period return for each IPO firm and corresponding benchmarks. We define a year as 12 intervals of 21 trading days (252 days). Holding period returns for each firm and a corresponding benchmark are calculated as $[\prod_{t=1}^{T_i} (1 + R_{it}) - 1] \times 100$ percent, where R_{it} is the return on IPO firm stock i or a corresponding benchmark on the t -th day of the 5-year event window and T_i is the number of trading days in the event window. The term T_i is equal to 1,260 if

an IPO firm survives for 5 years after the issue. For firms that were delisted before the end of the 5-year window, the holding period return is calculated until the delisting date, and the corresponding benchmark's return is calculated over the same truncated period. The first day after the issue date is $t = 1$. We do not include the issue day return (that is, initial return or underpricing), as it is frequently difficult for an ordinary investor to buy a share of an IPO firm at the offering price.²⁷ Finally, we calculate the abnormal holding period return for each firm by subtracting the 5-year holding period return of the corresponding benchmark from the 5-year holding period return of the IPO firm.

We split our sample into two groups as in the case of operating performance (firms with stronger antitakeover protection, or those with four or more ATPs, and firms with weaker antitakeover protection, or those with three or less ATPs) and test the differences in abnormal holding period returns between the two groups.

In Table 12 we report the mean and median 5-year holding period returns for IPO firms and corresponding benchmarks split into two groups by the prevalence of ATPs. Consistent with the findings in the previous literature, IPO firms underperform corresponding benchmarks in 5 years after going public since both the mean and median holding period returns of IPO firms are less than those of corresponding benchmarks (see, for example, Ritter 1991; Loughran and Ritter 1995; Brav and Gompers 1997; Teoh, Welch, and Wong 1998). However, both the mean and median abnormal holding period returns of IPO firms with stronger antitakeover protection are significantly larger than those of IPO firms with weaker antitakeover protection. The differences in mean abnormal holding period returns are statistically significant at the 10 percent level, and the differences in median abnormal holding period returns are significant at the 1 and 5 percent levels. These results contradict the managerial entrenchment hypothesis.

To test the long-term value creation hypothesis (hypothesis 5), we divide our sample into two groups, A and B, as described in Section 5.3. In group A we place firms with above median management quality factor score and with four or more ATPs. We place the rest of the sample in group B. Thus, firms in group A have higher quality managers and stronger ATPs. In Table 13, we report the mean and median 5-year holding period returns for IPO firms and corresponding benchmarks. We find that IPO firms in group A have consistently larger abnormal holding period returns than IPO firms in group B across all benchmarks. The differences in mean abnormal holding period returns are significant at the 1, 5, and 10 percent levels depending on the benchmark used, and the differences in median abnormal holding period returns are all significant at the 1 percent level. These results indicate that firms in group A have better post-IPO stock return

²⁷ Including the issue day return in our analysis does not change the results.

Table 12
Relationship between Antitakeover Provisions (ATPs) and Post-Initial Public Offering (IPO)
Stock Return Performance for Firms with IPOs 1993-2000

Benchmark	Stronger Antitakeover Protection (N = 381)				Weaker Antitakeover Protection (N = 338)				Difference in Mean		Difference in Median		
	Mean IPO Return	Mean Benchmark Return		Mean IPO Return	Mean Benchmark Return		Median IPO Return	Median Benchmark Return		Abnormal Holding Period Returns	t-Statistic	Abnormal Holding Period Returns	z-Statistic
		Return	Benchmark		Return	Benchmark		Return	Benchmark				
NASDAQ EW Index	26.94	312.56	-40.60	296.78	18.30	336.47	-55.64	309.71	32.56 ⁺	(1.777)	34.28 [*]	(2.324)	
NASDAQ VW Index	26.94	103.01	-40.60	75.10	18.30	126.55	-55.64	111.47	32.19 ⁺	(1.960)	36.05 ^{**}	(3.645)	
CRSP EW Index	26.94	191.26	-40.60	191.59	18.30	204.30	-55.64	200.09	21.68	(1.352)	19.90 [*]	(2.562)	
CRSP VW Index	26.94	80.22	-40.60	71.92	18.30	98.09	-55.64	100.01	26.52 ⁺	(1.685)	28.46 ^{**}	(3.809)	
S&P 500 Index	26.94	76.93	-40.60	69.96	18.30	95.71	-55.64	99.75	27.43 ⁺	(1.738)	32.72 ^{**}	(3.904)	

Note. Data are percentages unless otherwise specified. Returns are calculated by compounding daily returns for 1,260 trading days after the IPO. If an IPO firm is delisted before the end of the 5-year period, returns are compounded until the delisting date. Abnormal holding period returns for each IPO firm are calculated as a difference between its holding period return and a corresponding benchmark's holding period return. Firms with stronger antitakeover protection have four or more firm-level ATPs, and firms with weaker antitakeover protection have three or fewer firm-level ATPs. Significance levels are based on the parametric *t*-test for the difference in mean abnormal holding period returns between the two samples and the Wilcoxon rank-sum test for the difference in median abnormal holding period returns between the two samples. EW = equal weighted; VW = value weighted.

⁺ Significant at the .10 level.

^{*} Significant at the .05 level.

^{**} Significant at the .01 level.

Table 13
 Relationship among Management Quality, Antitakeover Provisions (ATPs), and Post-Initial Public Offering (IPO)
 Stock Return Performance for Firms with IPOs 1993-2000

Benchmark	Group A (N = 209)				Group B (N = 502)				Difference in Mean		Difference in Median	
	Mean IPO Return	Mean Benchmark Return	Median IPO Return	Median Benchmark Return	Mean IPO Return	Mean Benchmark Return	Median IPO Return	Median Benchmark Return	Abnormal Holding Period Returns		Abnormal Holding Period Returns	
									t-Statistic	z-Statistic		
NASDAQ EW Index	23.86	281.25	-50.88	270.55	23.62	340.77	-47.20	311.20	59.76**	(2.966)	36.97**	(3.552)
NASDAQ VW Index	23.86	87.74	-50.88	65.29	23.62	124.60	-47.20	106.44	37.10*	(2.045)	37.48**	(3.226)
CRSP EW Index	23.86	173.31	-50.88	175.04	23.62	206.99	-47.20	199.44	33.92*	(1.917)	20.72**	(3.060)
CRSP VW Index	23.86	67.97	-50.88	54.40	23.62	96.87	-47.20	94.02	29.14 ⁺	(1.675)	35.94**	(3.257)
S&P 500 Index	23.86	64.52	-50.88	53.21	23.62	94.24	-47.20	94.72	29.26*	(1.716)	37.83**	(3.321)

Note. Data are percentages unless otherwise specified. Returns are calculated by compounding daily returns for 1,260 trading days after the IPO. If an IPO firm is delisted before the end of the 5-year period, returns of IPO firms and corresponding benchmarks are compounded until the delisting date. Abnormal holding period returns for each IPO firm are calculated as a difference between IPO firm's holding period return and a corresponding benchmark's holding period return. Group A represents firms with above median management quality factor scores and four or more firm-level ATPs. Group B represents the rest of the sample. Significance levels are based on the parametric *t*-test for the difference in mean abnormal holding period returns between the two samples and the Wilcoxon rank-sum test for the difference in median abnormal holding period returns between the two samples. EW = equal weighted; VW = value weighted.

⁺ Significant at the .10 level.

* Significant at the .05 level.

** Significant at the .01 level.

performance than firms in group B and provide support for the long-term value creation hypothesis (hypothesis 5).²⁸

In summary, our results on post-IPO stock return performance provide support for the long-term value creation hypothesis and contradict the managerial entrenchment hypothesis.

6. Conclusion

In this paper we shed new light on the role of ATPs in firms going public by analyzing the relationship between the quality and reputation of a firm's management and the prevalence of ATPs in the corporate charters of IPO firms. Using hand-collected data on the quality of the management teams of firms going public and on the ATPs in their corporate charters, we study the relationship among management quality, ATPs, and post-IPO performance and IPO valuation for the first time in the literature. We test the implications of two theories: the managerial entrenchment hypothesis, which implies that ATPs are meant mainly to enhance the control benefits of existing firm management by minimizing the probability of takeovers by rival management teams and therefore always reduce shareholder value, and the long-term value creation hypothesis, which argues that such provisions, while they entrench firm management, can also be value enhancing in the hands of higher quality managers, since they allow such managers to create superior long-term value for the firm without paying undue attention to short-term pressures arising from the market for corporate control.

Our empirical results are as follows. First, firms with higher quality managers are associated with a greater number of ATPs than are those with lower quality managers. Second, within the high-management-quality category, firms with larger growth options are associated with a greater number of ATPs compared with all other firms. Third, regardless of management quality, firms with a greater number of ATPs outperform those with a smaller number of ATPs, in terms of both post-IPO operating and post-IPO stock return performance. Fourth, if we divide our sample of IPO firms into four categories—those with higher or lower management quality and those with a greater or a smaller number of ATPs within each management quality category—firms with higher management quality and a greater number of ATPs have better post-IPO operating and post-IPO stock return performance and higher IPO valuation than firms in the remaining

²⁸ We also study long-term post-IPO stock return performance by using 5-year wealth relatives for portfolios of IPO firms and corresponding benchmarks. (These results are available on request.) Wealth relatives are calculated as a ratio of the end-of-period wealth from holding a portfolio of IPO firms to the end-of-period wealth from holding a portfolio of a corresponding benchmark. Our findings using wealth relatives are consistent with those reported in Tables 12 and 13. In particular, IPO firms with stronger antitakeover protection have larger wealth relatives across all benchmarks than do IPO firms with weaker antitakeover protection, and IPO firms in group A have consistently larger wealth relatives than do IPO firms in group B across all benchmarks.

three categories. These findings contradict the managerial entrenchment hypothesis and support the long-term value creation hypothesis.

Thus, in contrast to much of the literature on the role of ATPs in corporate charters in the context of IPOs and other corporate events, the evidence presented here indicates that having stronger ATPs in a firm's corporate charter does not necessarily destroy shareholder value. The evidence emerging from our empirical analysis indicates that ATPs play a more nuanced role in affecting shareholder value: while a greater number of ATPs may indeed destroy shareholder value in the hands of poorer quality management (possibly by entrenching it more strongly), our analysis indicates that ATPs are value enhancing in the hands of higher quality firm management. Thus, by incorporating the role of management quality into our empirical analysis, we provide a more complete picture of the relationship between the prevalence of ATPs in a firm's corporate charter and shareholder value.

Appendix A

Table A1
Descriptions of Antitakeover Provisions (ATPs)

Provision	Description
	Firm-Level ATPs
1. Antigreenmail	Greenmail refers to targeted stock repurchases by management, usually at a substantial premium over market value, of company shares from groups or individuals seeking control of a company; antigreenmail provisions prohibit managers from entering into such arrangements with bidders unless they are approved by shareholders or the same repurchase offer is made to all shareholders
2. Blank-check preferred stock	Preferred stock that is authorized but not issued; it gives a company's board of directors power to issue shares of preferred stock at its discretion and determine its voting, distribution, conversion, and other rights at the time of the issue; blank-check preferred stock can be placed with friendly parties to deter potential takeover bids by diluting bidders' equity and voting positions; it can be also used to establish poison pills
3. Staggered (classified) board	A board of directors that is usually divided into three classes, with each class elected in different years and serving a 3-year term; classifying the board makes it more difficult to change control of the company through proxy contests since a minority of directors are elected each year; a bidder who has voting control of the company will be unable to gain control of the board in a single election and would need up to 2 years to gain control
4. Fair price	Usually adopted to defend against two-tiered front-end-loaded tender offers when the bidder first buys a controlling block of shares and then offers a lower price to remaining shareholders, which usually forces the target shareholders to tender their shares in the first stage regardless of the price offered, since the second-stage price will be lower; fair-price provisions usually require bidders to pay remaining shareholders the same price paid to acquire the controlling block in the first stage; the bidder may avoid such pricing requirements if the offer is approved typically by the supermajority of disinterested shareholders or the board of directors
5. Poison pills	Also known as shareholder rights plans, poison pills are financial instruments in a form of rights or warrants issued to shareholders that trade with common shares; when triggered by a hostile takeover attempt, poison pills detach, trade separately, and become valuable; poison pills can dilute a bidder's equity holdings and voting interests in a target company by giving a right to common shareholders to buy additional shares of the target company at a steep discount or can dilute a bidder's equity holdings in a merged company by giving a right to a target firm's shareholders to buy discounted shares of the postmerger company

6. Stakeholder clause
- Permits directors, when evaluating takeover bids, to consider the interests of constituencies other than shareholders such as employees, creditors, suppliers, customers, surrounding communities, and others; provides a target firm's directors with a legal basis to take actions that could be value decreasing to shareholders, for example, turning down attractive takeover bids
- Shareholder meeting restrictions:
7. Meetings called only by directors or executives
- Disallows common shareholders and authorizes only directors or executives to call special shareholder meetings to act on matters that arise between regularly scheduled meetings; can deter potential takeovers by delaying removal of directors by a controlling bidder or by hindering the ability of common shareholders to vote on attractive bids
8. Supermajority required to call special meetings
- Allows common shareholders to call special shareholder meetings if they can get the consent of a shareholder or groups of shareholders holding a supermajority of outstanding shares
9. Advance-notice requirement
- Requires shareholders to give advance notice of matters they intend to present at the shareholders' meeting; usually specifies a window for the earliest and latest dates for such submissions, for example, no later than 60 days prior to the meeting with a submittal window of at least 60 days; advance-notice requirements can deter takeovers by prohibiting shareholders from voting on matters regarding the takeover bids if proper advance notice is not submitted
10. Restrictions on action by written consent
- Action taken without a meeting if shareholders individually or collectively consent in writing to such action; limits the ability of shareholders to act by written consent by prohibiting it or requiring unanimous or majority written consent; can delay takeovers by forcing a bidder to take an action at the next scheduled meeting
- Supermajority vote requirements:
11. Supermajority required to approve mergers
- Requires the vote of a supermajority (usually at least two-thirds and up to 90 percent) of shareholders to approve mergers, business combinations, or asset sales; supermajority requirements are often unreachable because they exceed the level of shareholder participation at a meeting or because of large insider or employee stock ownership plan shareholdings
12. Supermajority required to replace directors
- Requires the vote of a supermajority of shareholders to replace directors and can deter takeovers by limiting the ability of a bidder to remove directors opposing the takeover
13. Supermajority required to amend charter and bylaws
- Requires the vote of a supermajority of shareholders to amend charter or bylaws and restricts the ability of shareholders to repeal other ATPs, which are usually proposed as amendments to charter and bylaws
14. Unequal voting rights
- Refer to a share structure with more than one class of common shares that have different voting rights; usually insiders of a firm, such as managers and inside directors, hold a class of shares that gives them more than one vote per share, with the class held by other shareholders having only one vote per share

Table A1 (*Continued*)

Provision	Description
Miscellaneous ATPs:	
15. Directors can be removed only for cause	Limits the ability of potential acquirers to remove directors opposing a takeover
16. Merger must be approved by inside directors	Requires the approval of inside directors or directors not related to a potential bidder for a merger to take effect
17. Restrictions on transfer of common stock	Puts various restrictions on transfer of common stock; for example, such a provision may require principal shareholders to offer their shares first to other principal shareholders before selling them
18. Restrictions on votes each shareholder may cast	Puts various restrictions on the votes each shareholder may cast; for example, shareholders who own more shares than a prespecified threshold may cast only half of their votes
19. Prohibition of cumulative voting for election of directors	Cumulative voting permits shareholders to combine their votes for directors and distribute them among one, a few, or all directors when more than one director is nominated for election; cumulative voting makes it easy for minority shareholders to elect their own representatives and can be particularly important in proxy contests; prohibition of cumulative voting limits the ability of bidders to elect their own representatives to the board of directors
State ATPs	
20. Freeze-out law	Requires a large shareholder who surpasses a certain share ownership threshold (usually from 5 percent up to 25 percent) to wait for a certain period of time (1–5 years) before gaining control of the firm unless the transaction is approved by the board of directors or the majority of shareholders; even after the waiting period, most acquirers are subject to fair-price provisions; the freeze-out law is the only state antitakeover law in Delaware with a trigger threshold of 15 percent and a waiting period of 3 years
21. Control share acquisition law	Requires that if a shareholder acquires shares that increase her holdings above a certain threshold (or a series of thresholds), these shares do not have voting rights unless they are approved by a majority or supermajority of disinterested shareholders

22. Fair-price law
 Similar to firm-level fair-price provisions, state-level fair-price provisions regulate the back-end price of two-tier takeover bids; around half of the states having these provisions allow fair-price requirements to be bypassed if approved by a majority of disinterested shareholders, while approximately 40 percent of states require a supermajority of all shares outstanding; some states allow boards to approve a transaction without shareholder approval; fair-price provisions typically require potential bidders to pay the highest market value of stock on a certain date (for example, the date the tender offer commenced or the date it was announced) or the highest price paid by an acquirer prior to becoming an interested shareholder
23. Poison-pill endorsement law
 Removes courts from the position of challenging potentially abusive pills, thus making boards more secure in their right to use poison pills
24. Constituency law
 Similar to firm-level stakeholder clauses, grants boards the right to consider the interests of other constituencies such as bondholders, employees, creditor, host communities, and even a society as a whole when evaluating takeover bids
25. Cash-out law
 Gives disinterested shareholders the right to sell their shares to a large shareholder, after she takes a controlling position, and this controlling shareholder must buy those shares at the highest acquiring price; allows disinterested shareholders to cash out of their position at the expense of the controlling shareholder
26. Antitgreenmail law
 State-level antitgreenmail provisions prohibit repurchasing shares from large shareholders at a premium if those shares were held for less than a prespecified period of time, unless a transaction is approved by a majority of disinterested shareholders or a board of directors; six states adopted this type of law, and one state later repealed it
27. Disgorgement law
 Requires that an acquirer disgorge or pay back to the company any profits realized from the sale of company's stock purchased before achieving control status; prevents potential acquirers from buying a large stake, announcing a battle for control, and then selling the stake at a higher price resulting from the prospect of potential acquisition; adopted in Ohio and Pennsylvania

Sources. Descriptions of firm-level and state-level ATPs mostly follow those in Field and Karpoff (2002) and Daines and Klausner (2001) and are supplemented by additional information found in initial public offering prospectuses.

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